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(19) **United States**(12) **Patent Application Publication****Sarwar et al.**(10) **Pub. No.: US 2011/0175813 A1**(43) **Pub. Date: Jul. 21, 2011**(54) **PIEZO-BASED ACOUSTIC AND CAPACITIVE DETECTION**(52) **U.S. Cl. 345/168; 381/56**

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(57) **ABSTRACT**

One particular implementation conforming to aspects of the present disclosure takes the form of an input device for a computing system. The input device includes a input surface on which one or more input characters are shown and one or more sensors to detect which input character is pressed or selected by the user. In one example, the input device may include one or more piezo-electric sensors that detect an acoustic pulse created when the user taps on the input surface to indicate a selected input. Each character of the input surface of the input device creates a different acoustic pulse signature when tapped such that, upon detection and receiving of the acoustic pulse at the piezo-electric sensors, the input device or computer system may compare the received pulse to a database of stored pulse signatures to determine which character on the surface of the input device was tapped by the user.

